recognized by T-lymphocytes or T-cell receptors, and further fulfilling at least one of the following criteria a or b:

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes.

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30. (Amended) A method for eliciting or stimulating immunological effector cells *in vivo* or *in vitro* against epitopes or antigens associated with impaired peptide processing, wherein said epitopes or antigens are expressed on target cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are

B2 recognized by T-lymphocytes or T-cell receptors, and further fulfilling at least one of the following criteria a or b:

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes;

said method comprising bringing said immunological effector cells in contact with epitopes or antigens associated with impaired peptide processing.

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B3 33. (Amended) A method for preparing a pharmaceutical agent or vaccine, wherein said pharmaceutical agent or vaccine can inhibit or prevent cancer growth or viral

infection by stimulating immunological effector cells directed against epitopes or antigens associated with impaired peptide processing, wherein said epitopes or antigens are expressed on target cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are recognized by T-lymphocytes or T-cell receptors, and further fulfilling at least one of the following criteria a or b:

B3 cont'd

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes;

said method comprising the step of mixing an agent that inhibits cellular peptide processing for MHC presentation, a nucleotide sequence which encodes an agent that inhibits cellular peptide processing for MHC presentation, or a nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation, with a pharmaceutically acceptable carrier or diluent.

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42. (Amended) The method of claim 33, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a

B4 component that takes part in cellular peptide processing for MHC presentation is a nucleotide sequence which is complementary at least in part to a mRNA or DNA sequence which encodes TAP.

43. (Amended) The method of claim 33, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation is a nucleotide sequence which is complementary at least in part to mRNA or DNA sequences which encode a proteasome.

44. (Amended) The method of claim 33, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation encodes a ribozyme.

48. (Amended) A method for treating or preventing cancer or viral infections, wherein said method comprises the step of administering cells or molecules specific for epitopes or antigens associated with impaired peptide processing to a patient, wherein said epitopes or antigens are expressed on target cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are recognized by T-lymphocytes or T-cell receptors , and further fulfilling at least one of the following criteria a or b:

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes.

58. (Amended) A method for treating or diagnosing cancer or viral infections, wherein said method comprises the steps of:

a) removing cells from a patient; and

b) treating said cells with a cell or molecule specific for epitopes or antigens associated with impaired peptide processing, wherein said epitopes or antigens are expressed on target cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are recognized by T-lymphocytes or T-cell receptors, and further fulfilling at least one of the following criteria a or b:

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes.

65. (Amended) A pharmaceutical composition or vaccine comprising a pharmaceutically effective dose of an agent that inhibits cellular peptide processing for MHC presentation, a nucleotide sequence which encodes an agent that inhibits cellular peptide processing, or a nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation, and at least one agent that stimulates T-lymphocytes, or one nucleotide sequence which encodes an agent that stimulates T-lymphocytes, and a pharmaceutically acceptable carrier or diluent.

71. (Amended) The pharmaceutical composition or vaccine of claim 65, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular processing for MHC presentation is a nucleotide sequence which is complementary at least in part to an mRNA or DNA sequence which encodes TAP.

B8

72. (Amended) The pharmaceutical composition or vaccine of claim 65, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular processing for MHC presentation is a nucleotide sequence which is complementary at least in part to an mRNA or DNA sequence which encodes a proteasome.

73. (Amended) The pharmaceutical composition or vaccine of claim 65, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation encodes a ribozyme.

74. (Amended) A method for treating or preventing cancer or viral infections, wherein said method comprises the step of administering an agent that inhibits cellular peptide processing for MHC presentation, a nucleotide sequence which encodes an agent that inhibits cellular peptide processing for MHC presentation, or a nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a

B8 cont'd

component that takes part in cellular peptide processing for MHC presentation, in combination with at least one agent which stimulates T-lymphocytes, or one nucleotide sequence which encodes an agent that stimulates T-lymphocytes, to a patient in combination with a pharmaceutically acceptable carrier or diluent.

80. (Amended) The method of claim 74, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular processing for MHC presentation is a nucleotide sequence which is complementary at least in part to an mRNA or DNA sequence which encodes TAP.

B9

81. (Amended) The method of claim 74, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular processing for MHC presentation is a nucleotide sequence which is complementary at least in part to an mRNA or DNA sequence which encodes a proteasome.

82. (Amended) The method of claim 74, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation encodes a ribozyme.

83. (Amended) A method for eliciting or stimulating immunological effector cells *in vivo* or *in vitro* against epitopes or antigens associated with impaired peptide processing, wherein said epitopes or antigens are expressed on target cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are recognized by T-lymphocytes or T-cell receptors, and further fulfilling at least one of the following criteria a or b:

B9

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes;

said method comprising bringing said immunological effector cell in contact with a target cell which expresses on its cell surface endogenous epitopes or antigens associated with impaired peptide processing, wherein said target cell has not been contacted with external MHC binding peptides except for external MHC binding peptides which are epitopes or antigens associated with impaired peptide processing.

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96. (Amended) The method of claim 83, wherein said method further comprises the step of treating the target cell with an agent that inhibits cellular peptide processing for MHC presentation, a nucleotide sequence which encodes an agent that inhibits cellular peptide processing for MHC presentation, or a nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part

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in cellular processing for MHC presentation, prior to bringing the target cell in contact with said immunological effector cells.

102. (Amended) The method of claim 96, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular processing for MHC presentation is a nucleotide sequence which is complementary at least in part to an mRNA or DNA sequence which encodes TAP.

B11

103. (Amended) The method of claim 96, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular processing for MHC presentation is a nucleotide sequence which is complementary at least in part to an mRNA or DNA sequence which encodes a proteasome.

104. (Amended) The method of claim 96, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation encodes a ribozyme.

105. (Amended) A pharmaceutical composition or vaccine comprising cells or molecules specific for epitopes or antigens associated with impaired peptide processing,

wherein said epitopes or antigens are expressed on target cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are recognized by T-lymphocytes or T-cell receptors, and further fulfilling at least one of the following criteria a or b:

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes;

and a pharmaceutically acceptable carrier or diluent.

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112. (Amended) A pharmaceutical composition or vaccine comprising a cell which expresses on its cell surface endogenous epitopes or antigens associated with impaired peptide processing, wherein said epitopes or antigens are expressed on target cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are recognized by T-lymphocytes or T-cell receptors, and wherein at least one of the following criteria a or b is fulfilled:

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes;

and further wherein external MHC binding peptides, other than external MHC binding peptides comprising epitopes or antigens associated with impaired peptide processing, have

B12 Cont

not been added to said cells, in combination with a pharmaceutically acceptable carrier or diluent.

115. (Amended) A method for treating or preventing cancer or viral infection, wherein said method comprises the step of administering to a patient cells which express

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endogenous epitopes or antigens associated with impaired peptide processing, wherein said epitopes or antigens are expressed on target cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are recognized by T-lymphocytes or T-cell receptors, and further fulfilling at least one of the following criteria a or b:

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes;

in combination with a pharmaceutically acceptable carrier or diluent.

118. (Amended) The method of claim 115, wherein said method further

B14

comprises the steps of removing cells from a patient, treating said cells with a substance that inhibits cellular peptide processing for MHC presentation, a nucleotide sequence which encodes an agent that inhibits cellular peptide processing for MHC presentation, or a nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence

B14 Cont which encodes a component that takes part in cellular processing for MHC presentation, before re-administering the cells to the patient.

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125. (Amended) The method of claim 118, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular processing for MHC presentation is a nucleotide

B15 sequence which is complementary at least in part to an mRNA or DNA sequence which encodes TAP.

126. (Amended) The method of claim 118, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular processing for MHC presentation is a nucleotide sequence which is complementary at least in part to an mRNA or DNA sequence which encodes a proteasome.

127. (Amended) The method of claim 118, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation encodes a ribozyme.

128. (Amended) A method for inducing the expression on cells *in vivo* or *in vitro* of epitopes or antigens associated with impaired peptide processing, wherein said epitopes

or antigens are expressed on cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are recognized by T-lymphocytes or T-cell receptors, and further fulfilling at least one of the following criteria a or b:

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

B 15 cont

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes;

said method comprising the step of treating said cells with an effective dose of an agent that inhibits cellular peptide processing for MHC presentation, a nucleotide sequence which encodes an agent that inhibits cellular peptide processing, or a nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation, and a pharmaceutically acceptable carrier or diluent.

129. (Amended) A kit for use in a process for stimulating immunological effectors, wherein said kit comprises a cell which expresses on its cell surface endogenous epitopes or antigens associated with impaired peptide processing, wherein said epitopes or antigens are expressed on target cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are recognized by T-lymphocytes or T-cell receptors, and wherein at least one of the following criteria a or b is fulfilled:

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

B15 cont'd

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes;

and further wherein said cell which expresses on its cell surface endogenous epitopes or antigens associated with impaired peptide processing has not been contacted with external MHC binding peptides except for external MHC binding peptides comprising epitopes or antigens associated with impaired peptide processing.

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132. (Amended) A kit for use in a process for stimulating immunological effectors, wherein said kit comprises epitopes or antigens associated with impaired peptide processing, wherein said epitopes or antigens are expressed on target cells in which cellular peptide processing for MHC presentation is impaired, wherein said epitopes or antigens are recognized by T-lymphocytes or T-cell receptors, and further fulfilling at least one of the following criteria a or b:

B16

a) recognition of said target cells by said T-lymphocytes is increased if peptide processing for MHC presentation on said target cell is decreased; or

b) said target cells are lymphoid cells expressing beta-2-microglobulin and are syngenic with said T-lymphocytes.

133. (Amended) The kit of claim 132, wherein said epitope or antigen associated with impaired peptide processing is a peptide either alone or bound to an MHC class I molecule.

134. (Amended) A kit for use in a process for stimulating immunological effectors, wherein said kit comprises an agent that inhibits cellular peptide processing for MHC presentation, a nucleotide sequence which encodes an agent that inhibits cellular peptide processing for MHC presentation, or a nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation, and an agent which stimulates T-lymphocytes, or a nucleotide sequence which encodes an agent which stimulates T-lymphocytes.

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135. (Amended) The kit of claim 134, wherein said agent that inhibits cellular peptide processing for MHC presentation is a TAP inhibitor.

136. (Amended) The kit of claim 134, wherein said TAP inhibitor is selected from the group consisting of ICP47 of HSV type 1 and IE12 of HSV type 2.

137. (Amended) The kit of claim 134, wherein said agent that inhibits cellular peptide processing for MHC presentation is a proteasome inhibitor.

138. (Amended) The kit of claim 134, wherein said nucleotide sequence which encodes an agent that inhibits cellular peptide processing for MHC presentation is a nucleotide sequence which encodes a TAP inhibitor.

139. (Amended) The kit of claim 134, wherein said nucleotide sequence which encodes an agent that inhibits cellular peptide processing for MHC presentation is a nucleotide sequence which encodes a proteasome inhibitor.

B16 cont

140. (Amended) The kit of claim 134, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular processing for MHC presentation is a nucleotide sequence which is complementary at least in part to an mRNA or DNA sequence which encodes TAP.

141. (Amended) The kit of claim 134, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular processing for MHC presentation is a nucleotide sequence which is complementary at least in part to an mRNA or DNA sequence which encodes a proteasome.

142. (Amended) The kit of claim 134, wherein said nucleotide sequence that is complementary at least in part to an mRNA or DNA sequence which encodes a component that takes part in cellular peptide processing for MHC presentation encodes a ribozyme.